

Notice of Allowability

Application No.

10/697,181

Applicant(s)

KULKARNI ET AL.

Examiner

Art Unit

Michael Bernshteyn

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 01/06/2006.
2. ☒ The allowed claim(s) is/are 1-2, 4-6, 8-11.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

1. This Office Action is a response to the remarks filed January 6, 2006. Applicants have cancelled claims 12-23 without prejudice. Applicants confirmed the election of the following species: R₁ and R₂ – hydrogen, X- ester, L – NHCH(CH₃)₂, Y – N-Acetyl Glucosamine.
2. Claims 1-11 are now pending.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Marc T. Skoog on May 22, 2006.

4. Claims 3 and 7 are cancelled.

Claim 2, line 1, between "wherein" and "molecular weight" insert --weight-average--.

Claim 8, line 3, delete all words after the word "contamination".

Claim 10, delete the original claim, and insert --Block copolymer as claimed in claim 1, wherein the copolymer has an I₅₀ for inhibition of lysozyme of 0.00026 mM compared with monomer NAG having an I₅₀ of 74 mM--.

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Claim 11, delete the original claim, and insert --Block copolymer as claimed in claim 1, wherein the copolymer has weight-average molecular weight 14,000 and binding constant 1.38×10^6 , which shows 30,000 folds enhancement over NAG (5.24×10^2)--.

Allowable Subject Matter

5. Claims 1, 2, 4-6, 8-11 are allowed.
6. The following is examiner's statement of reasons for allowance:

The present claims are allowable over the closest reference: Mandeville et al. (U. S. Patent 5,891,862).

Mandeville discloses polymerizable monomers comprising a fucoside moiety which is attached by a spacer group for example, an alkylene group, or an alkylene group, wherein one or more carbon atoms are substituted by heteroatoms, such as oxygen, nitrogen or sulfur atoms. The polymer can be a homopolymer or a copolymer (abstract and col. 3 lines 17-19 and 41-43).

Mandeville discloses that the polymer characterized by polymerized monomer of Formula III and a polymerized monomer of Formula VIII containing polysaccharide residues can be copolymerized with each other via a spacer group containing s-heteroatom (abstract), wherein this spacer group is substantially identical to the one instantly claimed (col.27 lines 44-56 and col. 28, lines 1-8). Furthermore, by the virtue of copolymerization of two monomers with different activity towards each other, as in Mandeville, the block copolymer is inherently formed.

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However, Mandeville does not disclose or fairly suggest the instantly claimed block copolymer containing a sulfur atom in the group that couples one block to another block, which group is at the end of the block. The moiety that forms a bond between the blocks, "X" as recited in claim 1, is an ester or amide link, and not a sulfur atom.

7. As of the date of this Notice of Allowability, the Examiner has not located or identified any reference that can be used singularly or in combination with another reference including Mandeville to render the present invention anticipated or obvious to one of ordinary skill in the art.

8. In the light of the above discussion, it is evident as to why the present claims are patentable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delay, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reason for Allowance".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax

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phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn
Patent Examiner
Art Unit 1713

MB
05/22/2006



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